

## CLAIMS:

1. A method of multiplexing a first transmission channel having a first transmission time interval for data unit transmission and at least one second transmission channel having a second transmission time interval for data unit transmission, said method comprising the steps of:

reserving space for a first transmission channel at predetermined positions by supplying a stream of placeholder bits to a channel multiplexing function of at least one second transmission channel;

generating a data stream of said first transmission channel; and

replacing said placeholder bits by said generated data stream of said first transmission channel.

2. A method of demultiplexing a first transmission channel having a first transmission time interval for data unit transmission and at least one second transmission channel having a second transmission time interval for data unit transmission, said method comprising the steps of:

deriving at least one of predetermined positions and numbers of data units of a first transmission channel from a receiving signal containing a data stream multiplexed according to a channel multiplexing scheme of a second transmission channel;

copying from said multiplexed data stream data units located at said predetermined positions; and

processing a data stream of said copied data units according to a processing scheme of said first transmission channel.

3. A method according to claim 1, wherein said reserving step comprises the step of:

multiplexing said data stream of said first transmission channel according to a channel multiplexing scheme of said first transmission channel.

4. A method according to claim 1, wherein said method further comprises the step of:

selecting the first transmission time interval to be smaller than the second transmission time interval of said at least one second transmission channel.

5. A method according to claim 4, wherein said selecting step comprises selecting a length of said second transmission time interval to be an integer multiple of a length of said first transmission time interval.

6. A method according to claim 5, wherein said selecting step comprises selecting said second transmission time interval so as to have a length of 10 ms and said first transmission time interval so as to have a length of 2 ms.

7. A method according to claim 1, wherein said reserving step comprises fixing said predetermined positions during a length of one second transmission time interval of said at least one second transmission channel.

8. A method according to claim 7, wherein said reserving step comprises varying said predetermined positions between different positions of said second transmission time interval.

9. A method according to claim 2, wherein said deriving step comprises deriving said at least one of said predetermined positions and numbers from a transport format information of said multiplexed data stream.

10. A method according to claim 9, wherein said deriving step comprises deriving said at least one of said predetermined positions and numbers from said transport format information comprising Transport Format Combination Index parameter used at least partly for said second transmission channel.

11. A method according to claim 1, wherein said replacing step is performed after a final interleaving process.

12. A method according to claim 11, wherein said replacing step is performed by a physical channel mapping function.

13. A method according to claim 1, wherein said generating step comprises at least one of a channel coding step, a channel multiplexing step, a channel segmentation step and an interleaving step.

14. A method according to claim 13, wherein the reserving step comprises reserving space for said first transmission channel comprising a multicode channel, and the reserving step comprises varying the number of said placeholder bits on different code channels of a multicode channel.

15. A method according to claim 2, wherein said copying step comprises copying said data units located at said predetermined positions before a first de-interleaving process.

16. A method according to claim 15, further comprising the step of removing said data units located at said predetermined positions after demultiplexing of said multiplexed data stream.

17. A method according to claim 1, wherein said reserving step comprises reserving space for said first transmission channel comprising an enhanced dedicated Wideband Code Division Multiple Access channel and said second transmission channel comprising a dedicated Wideband Code Division Multiple Access channel.

18. A method according to claim 17, wherein said reserving step comprises reserving space for said first transmission channel comprising said

enhanced dedicated Wideband Code Division Multiple Access channel having an enhanced transport format indication information channel, said enhanced transport format indication information indicating specific information about the structure of said first transmission channel.

19. A method according to claim 1, further comprising the step of treating said placeholder bits of said first transmission channel as one of said at least one second transmission channels.

20. A device for multiplexing a first transmission channel having a first transmission time interval for data unit transmission and at least one second transmission channel having a second transmission time interval for data unit transmission, said device comprising:

supply means for supplying a stream of placeholder bits to a channel multiplexing function of at least one second transmission channel;

generating means for generating a data stream of a first transmission channel; and

replacing means for replacing said placeholder bits by said generated data stream of said first transmission channel.

21. A device for demultiplexing a first transmission channel having a first transmission time interval for data unit transmission and at least one second transmission channel having a second transmission time interval for data unit transmission, said device comprising:

deriving means for deriving at least one of predetermined positions and numbers of data units of a first transmission channel from a receiving signal containing a data stream multiplexed according to a channel multiplexing scheme of a second transmission channel;

copying means for copying from said multiplexed data stream data units located at said determined positions; and

channel processing means for processing a data stream of said copied data units according to a processing scheme of said first transmission channel.

22. A device according to claim 20, wherein said first transmission channel having a first transmission time interval is smaller than a second transmission time interval of said at least one second transmission channel.

23. A device according to claim 21, wherein said first transmission channel having a first transmission time interval is smaller than a second transmission time interval of said at least one second transmission channel.

24. A device according to claim 20, wherein said predetermined positions vary between different positions of a second transmission time interval of said at least one second transmission channel.

25. A device according to claim 24, wherein said predetermined positions vary between different positions of a second transmission time interval of said at least one second transmission channel.

26. A device according to claim 21, wherein said deriving means is configured to derive at least one of said predetermined positions and numbers from a transport format information of said receiving signal.

27. A device according to claim 26, wherein said transport format information comprises a Transparent Format Combination Index parameter used at least partly for said second transmission channel.

28. A device according to claim 20, wherein said replacing means is arranged after a final interleaving functionality.

29. A device according to claim 28, wherein said replacing means comprises a physical channel mapping functionality.

30. A device according to claim 20, wherein said generating means comprises at least one of a channel coding functionality, a channel multiplexing functionality, a channel segmentation functionality and an interleaving functionality.

31. A device according to claim 20, wherein said first transmission channel comprises a multicode channel, and said device is configured to vary the number of said placeholder bits on different code channels of said multicode channel.

32. A device according to claim 21, wherein said copying means is configured to copy said data units at said predetermined positions before the data units are supplied to a first de-interleaving process.

33. A device according to claim 32, further comprising removing means for removing said data units located at said predetermined positions after demultiplexing of said multiplexed data stream.

34. A device according to claim 20, wherein said first transmission channel comprises an enhanced dedicated Wideband Code Division Multiple Access channel and said second transmission channel comprises a dedicated Wideband Code Division Multiple Access channel.

35. A device according to claim 21, wherein said first transmission channel comprises an enhanced dedicated Wideband Code Division Multiple Access channel and said second transmission channel comprises a dedicated Wideband Code Division Multiple Access channel.

36. A device according to claim 20, wherein said multiplexing device comprises a mobile terminal.

37. A device according to claim 21, wherein said demultiplexing device comprises a Node B device.

38. A device according to claim 20, wherein said multiplexing device is configured to treat said placeholder bits of the first transmission channel as one of said at least one second transmission channels.